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UPPER FRENCH BROAD RIVER BASIN

**A COOPERATIVE PLAN
FOR ECONOMIC GROWTH**

**TENNESSEE VALLEY AUTHORITY
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FOREWORD

This report describes the broader context of TVA's cooperative area development program now underway in the Upper French Broad Basin in western North Carolina, and relates the importance of TVA's proposed water control system to the future developmental process. It identifies the organizations which have been instrumental in getting the process underway and lists the elements of the comprehensive plan that has been developed. Attention is focused on the local investments that will be triggered by installation of the water control system. Finally, realization of the importance of the TVA project by the area organizations is highlighted in the listing of the obligations they have agreed to assume.

UPPER FRENCH BROAD RIVER BASIN

A COOPERATIVE PLAN FOR ECONOMIC GROWTH

INTRODUCTION

The Upper French Broad basin includes five counties (Buncombe, Haywood, Henderson, Madison, and Transylvania) in the mountainous area of western North Carolina, having a combined population estimated at 250,000 in 1965. This intermountain valley centers on the city of Asheville in Buncombe County where approximately 60 percent of the population lives. Although the major urban concentration is in Buncombe County, there are other urban centers to the west--Waynesville, Canton, and Clyde--and to the south--Hendersonville, Brevard, and Rosman. Madison is the only county in the basin currently classified as a redevelopment county (Title IV) by the Economic Development Administration. It contains the communities of Marshall and Mars Hill.

The population of the area is projected to increase to 300,000 by 1980 and to reach nearly half a million by the year 2020. Employment is projected to increase from 85,000 in 1960 to 185,000 by 2020 (Table 1).

The most significant recent employment trend in the region is the shifting of workers out of agriculture into other sectors of the economy. By 1960 those employed in agriculture accounted for slightly less than 10 percent of the total employed. By 2020 agricultural workers are expected to represent less than one percent of the total (Table 2).

Most of the economic activities of the area are concentrated in and around Asheville and the urban areas to the south and west. Mountainous topography and the accompanying lack of accessibility restricts economic growth to limitations in the basin. The flood plains of the French Broad River, averaging only about three miles in width, along with the valleys of its principal tributaries provide the only significant areas of buildable land. Surrounding these valleys are the steep mountain lands of the Blue Ridge which are primarily limited to timber growing and recreational uses. These interrelationships are illustrated on the attached map (Figure 1).

The extent to which growth continues will be greatly influenced by the kinds of development activities initiated on the restricted land

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base of the area. It is on these lands that productive enterprises associated with agriculture, industry, commerce, and recreation must all be concentrated. Here, too, is the only land available for urban development. Thus, the need for appropriate planning and a framework for the implementation of plans is essential to economic progress in the region. This need is recognized by both state and local government.

In 1961 the Western North Carolina Regional Planning Commission, through the then North Carolina Department of Water Resources, requested TVA to participate in developing and initiating a program for resource development in the area as a basis for accelerating economic growth. TVA, through its Tributary Area Development program, has since been working closely with responsible state and local organizations in carrying out a unified resource development program. These cooperative efforts have provided significant insights into the needs and opportunities of the area. These insights have led to joint formulation of a comprehensive plan for optimum economic progress.

The county commissioners of the five Upper French Broad counties have created, under North Carolina law, the Upper French Broad Economic Development Commission as the focal point for implementing the comprehensive economic development program within the area. The Western North Carolina Regional Planning Commission provides local and regional planning assistance to a 17-county area in western North Carolina, including the 5-county area of the Upper French Broad basin.

At the state level, developmental assistance has been provided by various agencies. These efforts are being coordinated by the North Carolina State Planning Task Force, an element of the Governor's staff responsible for formulating and implementing state and regional planning and development programs. The North Carolina State Department of Water and Air Resources, recognizing the relationship between water resources development and economic growth, has assumed a major role in formulating plans for the 5-county area.

A COMPREHENSIVE PLAN FOR AREA DEVELOPMENT

Working with and through local and state agencies and TVA, the area's citizens have come to realize that the principal requirement of a development program is the need to preserve the present excellent physical environment while providing maximum incentive to the development of the area's potentialities. Assuming that future growth will occur along the lines suggested by the employment and population projections, it will be necessary to guide development so the area will remain a "quality" place to live and work, given the restrictions of the limited land base. The citizens have agreed that major emphasis must be given to the optimum utilization of area resources in order to accommodate the projected changes in the economy and in overall employment and population structure of the area. The incorporation of these elements into an integrated plan for economic growth constitutes the comprehensive plan for the development process. The elements of such a plan are set out below.

1. Area Planning--As noted above, the most important single problem is reservation of land for broadly identified uses--industrial, residential, recreational, and agricultural. An area land-use plan will provide a tool with which local leaders can influence the development of their area, pointing toward more rapid economic growth and an improved living environment for area citizens.

2. Human Resources--The developmental process revolves around the quality of the available human resource and the measures taken to upgrade abilities and skills to meet the requirements of economic growth. Optimum utilization of the human resource requires that education and training opportunities be available to all, and that each individual be encouraged to pursue these to the fullest extent of his abilities. More specifically, the vocational training programs available in the area should be tailored to the needs of the industrial and service sector employment opportunities that the development plan envisions.

3. Industrial Development--Due to the scarcity of suitable industrial land, a determined effort should be made to locate incoming industries on sites that best meet their needs. Special effort will be required to reserve sites with access to large volumes of process

water only for industries requiring this particular characteristic. An optimum "mix" of industries should be planned which is carefully matched to the present and future resource base of the area. An early listing of industries needed to provide the desired mix is essential in guiding local developers in their efforts.

4. Forestry--The large forest resource could be making a more substantial contribution to the Upper French Broad economy. At present the area is mainly a raw material source (primarily hardwoods) for surrounding processing centers. Local effort should begin now to seek furniture and other wood-processing industries for the Upper French Broad area. Improved management of the area's forest resource for multiple uses is a highly desirable objective.

5. Agriculture--Agriculture will continue to contribute substantially to income in the Upper French Broad area. Development activities should be directed to the expansion of production and marketing of specialty crops and dairying. Efforts also should be made to assist in enlarging the size of the farm enterprises.

6. Transportation--The scheduled completion of the Appalachian highway system, interstate highways I-40 and I-26, and the Blue Ridge Parkway provide transportation routes that will greatly improve the access from the area to other urban and industrial sections of the country. These roads will also increase the area's accessibility for tourist development. Upgrading of the secondary road system of the area is the next item of priority. Such roads will be needed to improve circulation within the area itself.

7. Water Resources--The potential advantages available to the Upper French Broad area from better control and more complete utilization of the water resource presents an opportunity that will have broad social and economic impacts. Heavy industry was originally attracted to this basin by the assurance of adequate supplies of high quality, low hardness process water. Continuation and expansion of economic growth will be in many respects dependent on curbing the destructive force of flood water and making full use of this resource for industrial, agricultural, municipal and recreational purposes.

PLANNING FOR WATER RESOURCES DEVELOPMENT

Careful analysis of the developmental needs of the area indicates that water resource development, better highway access, and improved educational opportunities provide the key elements necessary to achieve accelerated economic growth in the future.

The impending completion of the new regional highway network will provide the solution to serious transportation problems of long standing. Education and training are receiving greatly added emphasis from every level. Thus, the development and control of the water resource will provide the third important ingredient necessary for future economic growth.

This need was recognized by the people and their governmental agencies some time ago. As early as 1961 the Western North Carolina Regional Planning Commission suggested that the North Carolina Department of Water Resources work with TVA to initiate a study of the needs for a comprehensive resource development program with special emphasis on the water resource. The findings of these studies were published in 1964 in a two-volume resource inventory^{1/} which pointed out the need for flood control for urban and agricultural lands, improvement of water quality, and the need for additional water for recreational, industrial, and municipal purposes. Engineering studies undertaken by TVA have since identified the elements of a water control system that would optimize the economic impact of this resource. The details of the plan were reported in the TVA Planning Report #60-100 entitled "Development of the Water Resources of the French Broad River Basin in North Carolina" (September 1966).

As a complement to the project planning studies made by TVA, the North Carolina State Planning Task Force, with TVA encouragement and assistance, undertook an investigation of the degree that the proposed water control system would enhance the land uses of the area. Particular attention was given to the reservoirs and how they would affect the activities that are presently occurring and those that are most likely to occur in the future. These investigations also resulted in an

1. North Carolina State and Tennessee Valley Authority (In association with North Carolina Department of Water Resources, Western North Carolina Regional Planning Commission), "Economic Development of the Upper French Broad Area - Volume I" and "Economic Development of the Upper French Broad Area - Volume II, Basic Data Supplement" (Knoxville, Tennessee, May, 1964).

appraisal of the kinds and amounts of public and private investment that can be expected to be associated with the water control system. Although conditioned upon the continuation of the present strong organizational arrangements and an active developmental and promotional effort throughout and beyond the construction period, the magnitude of these investments are expected to substantially exceed the dollar value of the project benefits.

INVESTMENTS ASSOCIATED WITH THE WATER CONTROL SYSTEM

The principal finding of the intensive studies of the North Carolina State Planning Task Force^{1/} was that some \$200 million would be invested in facilities related to the water control project within 10 years after completion. Furthermore, the studies clearly demonstrated that an investment of this magnitude was essential for the water control system to make its full contribution to the economic growth and development of the area. Table 3 summarizes these investments as to source.

The anticipated investments directly around the reservoirs generally result from improvement in the attractiveness of the area for residential and recreational purposes created by the new water areas and their shorelines. Much of the private investment of the shorelands is expected to be in the form of residences for year-round and summer use, resorts, and commercial facilities (Table 4). While representing a smaller amount, public investments on the shorelands will be made for such items as recreation facilities, developmental roads and sanitary facilities.

A different type investment will occur over a wider geographic area from utilization of the water supply, flood control or water quality benefits of the project. These are listed in Table 5. The investments resulting from expanded opportunities for industrial development alone will amount to some \$70 million.

The degree of development expected to occur around the various reservoirs will vary substantially, depending mainly on locational and topographic factors. This variability is illustrated in Table 6, where it can be seen that Ivy and Cane reservoirs, near Asheville; Clear Creek Reservoir, near Hendersonville; and Little River, near Brevard, are projected to attract roughly half of the reservoir-related investment over the first 10-year period.

1. North Carolina State Planning Task Force, "Development and Investment Plan - Upper French Broad River Basin," August, 1967.

LOCAL PARTICIPATION IN THE DEVELOPMENT AND UTILIZATION
OF THE WATER RESOURCE

The proposed Upper French Broad water control system fulfills a wide variety of needs with most of the benefits accruing to the local area. From this, it follows that the recipients of benefits should not only be participants in the plan of development but should also bear responsibilities related to the project. The citizens of the area and their local and state governments were quick to recognize this inter-relationship and have committed themselves to a significant role in the development and utilization of the system. While the major responsibility of the local people will be to assure that the development potentials inherent in the project are fully realized, negotiations have taken place with various parties involving more specific and direct participation. The following discussion describes the elements of direct participation that have been identified and the status of the negotiations in each case. These have been summarized in Table 7.

State of North Carolina

The past session of the North Carolina Legislature authorized the North Carolina Department of Water and Air Resources to make commitments for the repayment of the portion of the cost of federal water control projects. The staff of this department has concluded that the water supply features of the Upper French Broad system will fulfill an essential developmental need and has expressed a willingness to execute a formal commitment representing the total of direct and common costs allocated to this purpose. Present estimates indicate this amount to be \$4,700,000.

The Water and Air Resources Staff has also agreed to recommend a commitment of one-half the costs of lands purchased for public recreational purposes and one-half the cost of recreational and fish and wildlife improvements included in the project. Since the location and amount of the recreational lands have not been specifically determined, it is not yet possible to determine the value of this commitment. The commitment for fish and wildlife and recreational improvements has an estimated capital value of \$406,000.

City of Asheville and Buncombe County

Asheville, as the major urban center in the Upper French Broad tributary area, will be a major recipient of benefits from the water control system. In addition, Asheville will be directly benefitted by the construction of 1.4 miles of levee along the French Broad River. In recognition of the importance of the water control system in preventing floods on the Asheville waterfront, the City Council has authorized the execution of a formal commitment under which the municipality would assume responsibility for: (1) acquisition of the land and land rights required for construction of the levee, (2) relocation of all utilities as required by levee construction, and (3) operation and maintenance of the levee system including floodwater pumping stations.

As trustee for the Swannanoa Sanitary District, the County Commission of Buncombe County has agreed to operate and maintain a pumping station that will be installed in an interceptor sewer line that is required to bypass the existing sewer around the proposed Swannanoa reservoir. The present worth capital value of the direct participation by Asheville and Buncombe County is estimated to be \$660,000.

The Five Upper French Broad Counties

The 74 miles of flood control channels will require maintenance to preserve the flood carrying capacity provided by the channel improvement work. In conjunction with the flood detention capacity of the 14 reservoirs, these channels will provide widespread benefits to agricultural lands along the Upper French Broad River. Thus maintenance responsibility should logically be borne on as broad a local base as possible.

The Upper French Broad Economic Development Commission has agreed to assume this responsibility, following receipt of the needed legislative authority, as part of its overall developmental program. If this authority is not obtained, the County Commission of the five counties have agreed to assume this responsibility. The present worth capital value of this responsibility is estimated at \$935,000.

SUPPLEMENTAL MATERIALS

Table 1
Upper French Broad Area
Total Population and Employment
1960, 1980, 2000, and 2020

	1960	1980	2000	2020
Population	239,537	303,300	393,500	489,600
Employment ^{a/}	85,350	107,900	145,200	184,900

Table 2
Upper French Broad Area
Employment by Activity
1960, 1980, 2000, and 2020

	1960	1980	2000	2020
Agriculture	7,587	2,900	2,000	1,400
Mining	67	--	--	--
Manufacturing	27,353	42,400	48,700	56,800
Other ^{a/}	<u>50,343</u>	<u>62,600</u>	<u>94,500</u>	<u>126,700</u>
Total	85,350	107,900	145,200	184,900

a. Includes armed forces.

Table 3
Water-Related Investments for Reservoir Areas and Region

Source of Investment	Total Investment Near Reservoir	Percent of Reservoir Investment	Total Region-Wide Investment	Percent of Region-Wide Investment	Total All Investment	Percent of All Investment
Federal	\$ 100,000	0.1	\$ 0	0.0	\$ 100,000	0.1
State	3,000,500	2.7	11,350,000	13.0	14,350,000	7.1
Local	1,086,800	1.0	6,056,000	7.0	7,142,800	3.6
Quasi-Public	702,500	0.6	0	0.0	752,500	0.4
Private	<u>107,723,000</u>	<u>95.6</u>	<u>70,000,000</u>	<u>80.0</u>	<u>177,723,000</u>	<u>88.8</u>
Total	\$112,662,800	100.0	\$ 87,406,000	100.0	\$200,068,890	100.0

Table 4
Water-Related Investments Adjacent to Reservoirs

Land Use	Projected Investment	Percent
Residential	\$ 90,745,000	80.6
Summer housing	10,365,000	9.2
Resorts	3,500,000	3.1
Commercial	2,275,000	2.0
Public recreation	2,302,500	2.1
Developmental roads	1,038,000	0.9
Sewer lines	581,300	0.5
Cabins	468,000	0.4
Summer camps	351,000	0.3
Fishing access	<u>162,500</u>	<u>0.2</u>
Others	824,500*	0.7
Total	\$112,612,800	100.0

*Investments by private colleges, industry, for club sites, etc.

Table 5
Water-Related, Area - Wide Public and Private Investment

Investment	State	Local	Quasi-Public	Private	Total
Industry				\$70,000,000	\$70,000,000
Access roads to industrial sites	\$ 500,000				500,000
Sewer lines to industrial sites		\$1,500,000			1,500,000
Water lines to industrial sites		3,000,000			3,000,000
Asheville levee utility relocations and easements		385,000			385,000
Assurances of the state for water supply	4,700,000				4,700,000
Swannanoa sewage pumping station		236,000			236,000
Channel operation and maintenance		935,000			935,000
Roads	<u>6,150,000</u>				
Total	\$11,350,000	\$6,056,000		\$70,000,000	\$87,406,000

Table 6
Water-Related Public and Private Investment
Around the Proposed Reservoirs

<u>Reservoirs</u>	<u>Projected Investment</u>	<u>Percent of Total</u>
Ivy	\$ 17,577,000	15.6
Swannanoa	4,671,900	4.1
South Hominy	9,434,900	8.4
Cane	16,986,000	15.1
Hooper Creek	9,349,000	8.3
Clear Creek	19,529,000	17.3
Devil's Fork	3,000	*
Mills River	2,742,500	2.4
Boyleston	9,983,000	8.9
Mud Creek	5,166,000	4.6
Little River	10,203,000	9.1
North Fork	182,000	0.2
East Fork	6,763,500	6.0
West Fork	22,000	*
Total (all lakes)	\$112,612,800	100.0

*Less than .1 of 1 percent.

Table 7
Elements of Local Participation

	<u>Estimated Value</u>
<u>State of North Carolina</u>	
Assume obligation for amount equal to cost allocated to water supply	\$4,700,000
One-half cost of lands purchased for public recreation	At present Indeterminable*
One-half cost of recreation and fish and wildlife improvements	\$ 406,000
<u>City of Asheville</u>	
Land rights for Asheville levee	\$ 176,000
Relocate utilities for levee	71,000
Operate and maintain levee	177,000
<u>Buncombe County</u>	
Operate and maintain Swannanoa sewer pumping station	\$ 236,000
<u>Five Upper French Broad Counties</u>	
Maintain channel improvements	<u>\$ 935,000</u>
TOTAL	<u>\$6,701,000</u>
	Plus value of recreation lands

*Location and amount of these lands have not been established.
It is not presently possible to place a dollar value on this item.



LEGEND:

- Developable Land
- Industrial Sites
- Present Urbanization
- Reservoirs
- Watershed Boundary

UPPER FRENCH BROAD
WATERSHED

Scale 0 6,000 12,000 18,000 Feet

APACK

ASHEVILLE-BUNCOMBE LIBRARY SYSTEM



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